CATCH ESTIMATION GUIDELINES

Accurate weights are extremely important. It will be possible to obtain actual weights in most situations. In rare cases, *i.e.* extremely large catches, rough weather, etc., it may be necessary to estimate the catch or a portion of the catch.

- Dressed vs. Round weights: Get round weights unless they are landing parts of a particular species, for example: monkfish livers, monkfish tails, skate wings, shark fins.
- Kept vs. Discarded catch: The following techniques can be used to estimate weights for both the kept and discarded portions of the catch. However, usually weight estimation will only be necessary for a kept species. If you are recording discards, ask the crew to throw the discards aside in totes or baskets for you to weigh at the end of the haul.
- Remember to subtract the weight of the basket or tote, *i.e.* the subsampling unit, from all weight calculations.
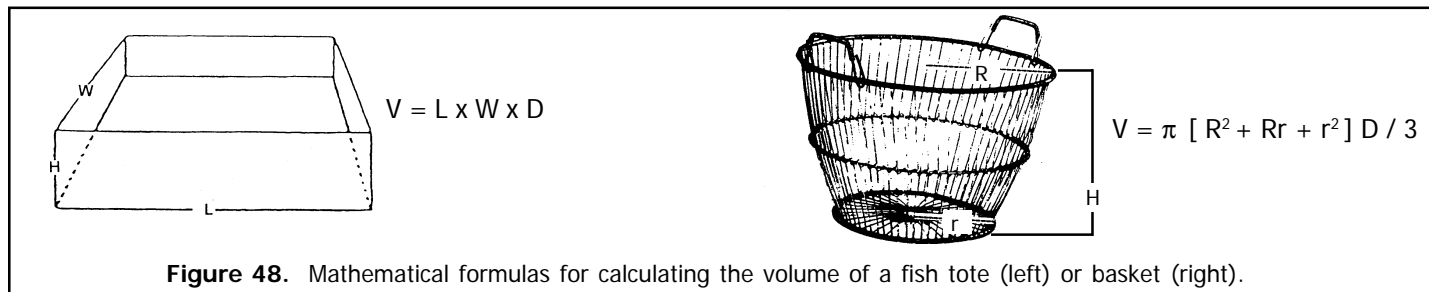- Obtain a catch estimate from the captain if there is no other way of estimating a weight.

A Estimation Based on Basket or Tote Counts

1 The catch is separated into totes by species. For each species:
2 Get an average weight per tote by actually weighing some totes (A).
3 Count the total number of totes; make sure that all of the totes are filled to approximately the same level (B).
4 If the last tote is not full, weight it (C).
5 To calculate the total catch, multiply the number of totes by the average weight of a tote and add the remainder (A x B + C).

B Estimating Large Catches and Total Species Weights Using Volume to Volume Method

1 Calculate the volume of the catch within the fish bin or hold. Take care that your volume measurements accurately represents the entire catch.
   Example: Rectangular bin/hold: Volume A (V cubic feet) = depth of catch (D feet) x width (W feet) x length (L feet).**

2 Calculate/determine the volume of the catch within a basket or tote (the subsampling unit) by multiplying the number

** Examples of calculating the volume for odd shaped containers can be found in the NEFOP Observer Program Training Manual.

Figure 48. Mathematical formulas for calculating the volume of a fish tote (left) or basket (right).

For the fish tote: $V = L \times W \times D$

For the basket: $V = \pi \, [\, R^2 + Rr + r^2 \,]\, D / 3$

of subsampling containers by the volume of the subsampling container.

- Volume of a standard fish tote = 2.65 ft^3
- Volume of an orange basket = 1.47 ft^3

Example: 8 orange baskets were used to collect a subsample of the entire catch. The subsample volume would be 8 (number of baskets) x 1.47 ft^3 (volume of an orange basket) = 11.76 ft^3 (subsample volume).

3 Calculate the Sample Weight Multiplier by dividing the total catch volume (Step 1) by the total subsample volume (Step 3).

Example: 40 ft^3 (total volume of catch) ÷ 4 ft^3 (total subsample volume) = 10 (sample weight multiplier).

4 Extrapilate the total of each of each species from the subsample by multiplying the weight of each individual species by the sample weight multiplier.

Example: The total subsample weights consist of 12 lbs Monkfish, 20 lbs Atlantic Cod and 30 lbs Summer Flounder.
12 lbs (Monkfish) x 10 (sample weight multiplier) = 120 lbs (estimated total Monkfish weight on haul log)
20 lbs (Atlantic Cod) x 10 (sample weight multiplier) = 200 lbs (estimated total Cod weight on haul log)
30 lbs (Summer Flounder) x 10 (sample weight multiplier) = 300 lbs (estimated Summer Fld weight on haul log).

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